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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,216	11/26/2003	Nick Hilliard		1215

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EXAMINER	
PAIK, STEVE S	
ART UNIT	**PAPER NUMBER**
2876	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/707,216	HILLIARD, NICK	
	Examiner	Art Unit	
	Steven S. Paik	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Receipt is acknowledged of the Amendment filed August 30, 2005.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. (US 2003/0216969 A1) in view of Omelchenko (SU 656052A).

Re claims 1 and 7, Bauer et al. disclose a method and an apparatus to convert a UPC format to an EPC format (page 16, [0176]-[0181]). The reference discloses the differences between UPCs (may consist of decimal data) and EPCs (binary data) and how the conversion process is performed. There are differences between a common UPC and an EPC. A UPC may consist of **decimal** (i.e., base ten) data including manufacturer number, object number, and a check digit, totaling 12 digits. An EPC includes **binary** data that may include a header, manufacturer number, object number, and electronic serial number. In both the UPC and EPC, the manufacturer number may be assigned by a governing body, such as price code standards governing body. An object class (including the object number) may be assigned by a manufacturer. In the case of an EPC, the serial number may also be assigned by the manufacturer. Bauer et al. further disclose as an example, the pseudo-EPC number may be arranged with an 8-bit header (1111,1111) that corresponds to the type header in the EPC, a 52-

bit UPC field that is divided into 13 subfields of 4 bits each, and a 36-bit serial number field, such as a sequential number, 0 to 68,719,476,735). The size of the data segments in the EPC may vary without departing from the scope of the present invention. The UPC number is made up of up to 13 digits, using the binary representation of each digit, one nibble per UPC digit. That is, 0 is 0000,1 is 0001, 2 is 0010, . . . and 9 is 1001. Individual packages of a given item may be assigned unique serial numbers until more than 68.7 billion packages are encountered. Note that there may be a difference in how the UPC number and the serial number are treated by the EPC writer and environment 110-1 when converting to a binary representation. In the case of the UPC number, each UPC digit (up to 13 digits) is assigned a nibble in the EPC. A binary conversion may be performed by EPC writer digit by digit, keeping particular decimal digits in correspondence with particular EPC nibbles. In the case of the EPC serial number, however, a straight conversion may be performed from the decimal serial number to the binary serial number, which is recorded in the 36-bit EPC field.

However, Bauer et al. are silent about the claimed means of loading and storing registers and the means of multiplying, dividing, shifting or adding register contents.

Omelchenko discloses a method and an apparatus for converting a binary-decimal number into a binary code. The conversion is attained by using logic gates, inhibit, adder, counter, shift register and binary equivalents memory. The circuit comprises, among other things, OR gates, and AND gates. The converter provides an increased operational speed by achieving simultaneous additions of lower and higher digits.

In view of Omelchenko, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to further employ an increased operational speed of BCD

into binary-code conversion in addition to the conversion method of a UPC format to an EPC format of Bauer et al. due to the fact that faster conversion can be accomplished by simultaneously adding of lower and higher digits.

Re claim 2, Bauer et al. in view of Omelchenko discloses the method as recited in rejected claim 1 stated above, wherein the operation of storage of a register involves only shift operations (Binary adders contents are transferred sequentially through shift registers until equivalent binary code is established).

Re claim 3, Bauer et al. in view of Omelchenko discloses the method as recited in rejected claim 1 stated above, wherein the operation of storage of a register involves only multiplication or division operations (The De Morgan laws can be applied to optimize the number of logic gates and operations to produce any desired Boolean operation).

Re claim 4, Bauer et al. in view of Omelchenko discloses the method as recited in rejected claim 1 stated above, storage of a register involves a mix of multiplication, division, or shift operations (The De Morgan laws can be applied to optimize the number of logic gates and operations to produce any desired Boolean operation).

Re claim 5, Bauer et al. in view of Omelchenko discloses the method as recited in rejected claim 1 stated above, wherein the entire operation of the method or parts of it are embodied within digital logic gates (OR gates and AND gates).

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. (US 2003/0216969 A1) as modified by Omelchenko (SU 656052A) as applied to claim 1 above, and further in view of Avgul et al. (SU 1429127A).

The teachings of Bauer et al. in view of Omelchenko have been discussed above.

Neither Bauer nor Omelchenko discloses the operations are embodied within a Hamiltonian or other matrix operation.

Avgul discloses a matrix operations calculator comprising a plurality of registers, summator, multiplier, flip-flops, AND gates and NOT gates. The circuit realizes matrix operations to generate a desired output.

Therefore, it would have been obvious at the time the invention was made to a person having of ordinary skill in the art to have incorporated the matrix operations calculator as taught by Avgul into the teachings of Bauer et al. in view of Omelchenko for the purpose of maximizing the productivity within the step of operations involved with various logic gates.

Response to Arguments

5. Applicant's arguments filed August 30, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the difference between a common UPC and an EPC necessitates a conversion process which involves calculations using logic gates and method disclosed by Omelchenko. Therefore, the examiner believes there is reasonable suggestion to combine the references.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., multiple step-by-step methods for performing actual conversion between UPC and EPC formats) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 7 is previously rejected with claim 1. Therefore, the applicant's argument in 4th paragraph on last page of the Amendment is moot.

For the reasons discussed above, claims 1-7 remain rejected under 35 U.S.C. § 103(a).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven S. Paik whose telephone number is 571-272-2404. The examiner can normally be reached on Monday - Friday 5:30a-2:00p (Maxi-Flex*).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven S. Paik
Primary Examiner
Art Unit 2876

ssp